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10/086,102	02/28/2002	Paul Glor Howard	2001-0370	2748
26652	7590	02/10/2006	EXAMINER	
AT&T CORP. P.O. BOX 4110 MIDDLETOWN, NJ 07748			BAYAT, ALI	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/086,102

Applicant(s)

HOWARD, PAUL GLOR

Examiner

Ali Bayat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on (amendment) 11/22/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 13-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 13-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/04/05</u> . | 6) <input type="checkbox"/> Other: _____  |

***Response to Arguments***

1. Applicant's arguments filed 11/22/05 have been fully considered but they are not persuasive. In page 2 of Applicant's remarks, Applicant argues that claim is not anticipated by Chu et al. Applicant argues that feature 374 is merely a buffer (64x8 RAM) and not a quantization element.

Examiner respectfully disagrees feature 374 is cited for quantize transform coefficients, which means that coefficient in RAM have been already quantized before being stored in the RAM.

Applicant further in page 8 of Applicant's remarks argues that feature 392 merely takes the coefficients from buffer 374 and if the particular coefficient is non-zero, it outputs a 1 and if it is zero, it outputs a zero, therefore Applicants traverse the Examiner's conclusion.

Examiner respectfully disagrees feature 392 provides for such that all, some, or none of the transform coefficients become zero (Fig.13 element 392, col.14 lines 25-34).

Applicant further in page 8 of Applicant's remarks argues and disagrees that constructing a single entity indicating which transform coefficients are non-zero is taught by the feature 404.

Examiner respectfully disagrees feature 404 provides for and constructing a single entity indicating which transform coefficients are non-zero (see the 8bits output of element 404, in Fig.13 which corresponds to single entity, col.14 lines 29-35).

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Applicant in page 9 of Applicant's remarks argues that the Examiner asserts that the step of coding the single entity an integer using an arithmetic coder is taught by the vector pattern VLC which the Examiner states is "one kind" of arithmetic coding. Applicants traverse the Examiner's equating the VLC with arithmetic coding.

Examiner respectfully disagrees Variable length coding (VLC), which codes the output of element 406, is one kind of arithmetic coder provides for coding the single entity as an integer using an arithmetic coder (see vector pattern VLC, which is output of element 406 in Fig.13, col.14 lines 60-68, which corresponds to one kind of arithmetic coding). Note arithmetic pertaining to the mathematical operations of addition, subtraction, multiplication, and division.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2,5-7,13-14,17-19, 22-27,30-31 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Chu et al. (U.S.5, 367,629).

In regard to claim 1, Chu provides for a converting a block of image data into transform coefficients (Fig.11A element 374, also Fig.13 element 374,col.14 lines 19-25); quantizing the transform coefficients (Fig.13 element 374, col.14 lines 19-25) such that all, some, or none of the transform coefficients become zero (Fig.13 element 392, col.14 lines 25-34); and constructing a single entity indicating which transform

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coefficients are non-zero (see the 8bits output of element 404, in Fig.13 which corresponds to single entity, col.14 lines 29-35); and coding the single entity as an integer using an arithmetic coder ( see vector pattern VLC, which is output of element 406 in Fig.13, col.14 lines 60-68, which corresponds to one kind of arithmetic coding) wherein the values of the transform coefficients are coded in any fixed order ( Fig's 11B-11D, col.13 lines 28-36).

With regard to claims 2,14, 19, 27 and 31 Chu provides for a method, wherein coding the single entity as an integer further comprises coding the single entity as an integer using an adaptive arithmetic coder (Fig.7 element 312).

As to claims 5 and 6 Chu provides for a method, wherein each transform coefficient is coded according to its own context, based on the transform coefficient (Fig.13 element 374, see the quantized coefficient).

In regard to claims 7,17, 22, 24,26 and 34 Chu provides for a method, wherein the single entity is a bit vector (Fig.13 element 404, col.14 lines 28-30).

With regard to claims 13, 23 and 30, see the rejected claim 1. They recite similar limitations as claim 1. Hence they are similarly analyzed and rejected.

As to claim 18. See the rejected claim 1. It recites similar limitations as claim 18. Except for a computer-readable medium (Fig.1 element 104). Hence it is similarly analyzed and rejected.

In regard to claim 25, Chu provides for decoding the single entity wherein the values of transform coefficients are decoded in any fixed order (Fig.14, elements 422,424,426); deconstructing the single entity (Fig.14 element 432) to determine which

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coefficients are non-zero (Fig.14, element 436); dequantizing the transform coefficients to determine whether all, some or none of the coefficients are zero (Fig.14 element 438); and converting the dequantized transform coefficients into block image data ( Fig.14 element 440).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4,10,15-16,20-21,28-29 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al.(U.S. 5,367,629) in view of Morihara et al. (US 6,542,640).

In regard to claims 3-4,15-16,20-21,28-29 and 32-33 Chu provides for coding the single entity (Fig.13 element 404) as an integer using an adaptive arithmetic coder (Fig.13 element 406). CHu does not expressly provide for semi-adaptive and non-adaptive arithmetic coder. Morihara provides for semi-adaptive and non-adaptive arithmetic coder (col.2 lines 9-20, note static coding that corresponds to non-adaptive). The prior art of Chu and Morihara are combinable because they are from the same field of endeavor (data compressing and reconstructing apparatus). At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Morihara (col.2 lines 9-20) with the system and method of Chu. Because Morihara invention relates to data compressing apparatus, reconstructing apparatus,

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and its method for compressing and reconstructing document data formed by character codes of a language such as Japanese (col.1 lines 10-15).

### ***Conclusion***

**4. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### **Contact Information**

**5.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Bayat whose telephone number is 571-272-7444. The examiner can normally be reached on M-F 9:00-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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2/05/06

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